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10/617,356

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Mizuki Tomono

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EXAMINER

HEFFINGTON, JOHN M

ART UNIT

PAPER NUMBER

2179

MAIL DATE

DELIVERY MODE

10/01/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/617,356

Applicant(s)

TOMONO, MIZUKI

Examiner

John M. Heffington

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 July 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

This action is in response to the original filing of July 11, 2003. Claims 1-35 are pending and have been considered below.

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 24 and 25 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 24 and 25 disclose a program for execution. A program is software and is none of a process, machine, manufacture, or composition of matter, and therefore is not a statutory category of invention.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3, 6, 7, 28-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller-Smith (US 7,091,998 B2) in view of Miyao et al. (US 4,466,237 B1).

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Claim 1: Miller-Smith discloses an information display unit comprising:

- a. a play-list information fetching section for fetching a play-list information concerning an order for display of a plurality of image data (column 1, lines 1-67, column 2, lines 1-10);
- b. a switching request information fetching section for fetching a switching request information for requesting switching of image data to be displayed (column 1, lines 1-67, column 2, lines 1-10); and
- c. a control section for controlling the display section to display image data to be displayed next according to said play-list information by fetching switching request information with this switching request information fetching section (column 1, lines 1-67, column 2, lines 1-10),

but does not disclose wherein said control section comprises:

- a. an image compression processing section for compressing the image data being currently displayed on the display section and the image data to be displayed next according to the play-list information to the state in which the image data is displayed on the screen display with smaller dimensions in respective directions compared to those of a normal screen display of the image data and also generating one piece of compressed image data by combining a plurality of pieces of said compressed image data so that those image data adjoin to each other along the direction in which the image data is compressed; and

- b. a display control section for providing controls so that said compressed image data is displayed first on said display section and then the image data to be displayed next is displayed by fetching the switching request information with said switching request information fetching section.

However, Miyao discloses a series of thumbnail images lying next to each other (adjoined, Merriam-Webster Online, <http://www.m-w.com/>) in a 3 dimensional elliptical path (figure 1), whereas the display image sizes of the thumbnails positioned in a back row are sequentially smaller than the display image sizes of the thumbnails positioned in an immediate front row (column 11, lines 16-23), and Miyao further discloses the sequential displacement of the thumbnails such that they appear to be rotating (column 13, lines 43-52). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to add

- a. an image compression processing section for compressing the image data being currently displayed on the display section and the image data to be displayed next according to the play-list information to the state in which the image data is displayed on the screen display with smaller dimensions in respective directions compared to those of a normal screen display of the image data and also generating one piece of compressed image data by combining a plurality of pieces of said compressed image data so that those image data adjoin (in contact with, Merriam-Webster Online, <http://www.m-w.com/>) to each other along the direction in which the image data is compressed; and

- b. a display control section for providing controls so that said compressed image data is displayed first on said display section and then the image data to be displayed next is displayed by fetching the switching request information with said switching request information fetching section

to Miller-Smith. One could have been motivated to add

- a. an image compression processing section for compressing the image data being currently displayed on the display section and the image data to be displayed next according to the play-list information to the state in which the image data is displayed on the screen display with smaller dimensions in respective directions compared to those of a normal screen display of the image data;
- b. generating one piece of compressed image data by combining a plurality of pieces of said compressed image data so that those image data adjoin (in contact with, Merriam-Webster Online, <http://www.m-w.com/>) to each other along the direction in which the image data is compressed; and
- c. a display control section for providing controls so that said compressed image data is displayed first on said display section and then the image data to be displayed next is displayed by fetching the switching request information with said switching request information fetching section

to Miller-Smith because the objective of Miller-Smith is to enable a user to intuitively navigate around a menu of items and select a desired one and the menu of Miyao

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accomplishes this purpose. Further, the thumbnail images of Miyao are adjoined together so that they form one single ring which is manipulated as a whole, i.e. no single thumbnail can be moved apart from moving the whole ring. Further, the examiner considers it to be patently immaterial whether the thumbnails are adjoined by lying next to one another or are adjoined by being in contact with one another.

Claim 2: Miller-Smith discloses an information display unit comprising:

- a. a play-list information fetching section for fetching play-list information concerning a order for display of a plurality of image data (column 1, lines 1-67, column 2, lines 1-10);
- b. a switching request information fetching section for fetching a switching request information for requesting switching of image data to be displayed (column 1, lines 1-67, column 2, lines 1-10);
- c. a control section for controlling the display section to display image data to be displayed next according to the play-list information by fetching switching request information with this switching request information fetching section (column 1, lines 1-67, column 2, lines 1-10),

but does not disclose:

- a. wherein said control section comprises: an image compression processing section for compressing a series of image data displayed according to an order in the play-list information of the image data displayed to the state in which the

- image data is displayed on the screen with smaller dimensions in respective directions compared to those of a normal screen display of the image data;
- b. also generating one piece of display image data by combining a plurality of pieces of said compressed image data so that those image data adjoin to each other along the direction in which the image data is compressed; and
 - c. a display control section for displaying said display image data as the image data displayed.

However, Miyao discloses a series of thumbnail images lying next to each other (adjoined, Merriam-Webster Online, <http://www.m-w.com/>) in a 3 dimensional elliptical path (figure 1), whereas the display image sizes of the thumbnails positioned in a back row are sequentially smaller than the display image sizes of the thumbnails positioned in an immediate front row (column 11, lines 16-23), and Miyao further discloses the sequential displacement of the thumbnails such that they appear to be rotating (column 13, lines 43-52). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to add

- a. wherein said control section comprises: an image compression processing section for compressing a series of image data displayed according to an order in the play-list information of the image data displayed to the state in which the image data is displayed on the screen with smaller dimensions in respective directions compared to those of a normal screen display of the image data;

- b. also generating one piece of display image data by combining a plurality of pieces of said compressed image data so that those image data adjoin to each other along the direction in which the image data is compressed; and
- c. a display control section for displaying said display image data as the image data displayed

to Miller-Smith. One could have been motivated to add

- a. wherein said control section comprises: an image compression processing section for compressing a series of image data displayed according to an order in the play-list information of the image data displayed to the state in which the image data is displayed on the screen with smaller dimensions in respective directions compared to those of a normal screen display of the image data;
- b. also generating one piece of display image data by combining a plurality of pieces of said compressed image data so that those image data adjoin to each other along the direction in which the image data is compressed; and
- c. a display control section for displaying said display image data as the image data displayed

to Miller-Smith because the objective of Miller-Smith is to enable a user to intuitively navigate around a menu of items and select a desired one and the menu of Miyao accomplishes this purpose. Further, the thumbnail images of Miyao are adjoined together so that they form one single ring which is manipulated as a whole, i.e. no single thumbnail can be moved apart from moving the whole ring. Further, the examiner

considers it to be patently immaterial whether the thumbnails are adjoined by lying next to one another or are adjoined by being in contact with one another.

Claim 3: Miller-Smith and Miyao disclose the information display unit according to claim 2, and Miyao further discloses a series of thumbnail images lying next to each other (adjoined, Merriam-Webster Online, <http://www.m-w.com/>) in a 3 dimensional elliptical path (figure 1), whereas the display image sizes of the thumbnails positioned in a back row are sequentially smaller than the display image sizes of the thumbnails positioned in an immediate front row (column 11, lines 16-23), and Miyao further discloses the sequential displacement of the thumbnails such that they appear to be rotating (column 13, lines 43-52). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to add

- a. the image compression processing section executes the processing for compressing the image data being currently displayed on the display section and the image data to be displayed next according to said play-list information to the state in which the image data is displayed on the screen display with smaller dimensions in respective direction compared to those of a normal screen display of the image data,
- b. generating one piece of compressed image data by combining a plurality of pieces of said compressed image data so that those image data adjoin to each other along the direction in which the image data is compressed, and

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- c. the display control section provides controls, by fetching the switching request information from the switching request fetching section, so that said compressed image data is displayed first on said display section and then the display image data assigned to be displayed next is displayed

Miller-Smith. One could have been motivated to add

- a. the image compression processing section executes the processing for compressing the image data being currently displayed on the display section and the image data to be displayed next according to said play-list information to the state in which the image data is displayed on the screen display with smaller dimensions in respective direction compared to those of a normal screen display of the image data,
- b. generating one piece of compressed image data by combining a plurality of pieces of said compressed image data so that those image data adjoin to each other along the direction in which the image data is compressed, and
- c. the display control section provides controls, by fetching the switching request information from the switching request fetching section, so that said compressed image data is displayed first on said display section and then the display image data assigned to be displayed next is displayed

to Miller-Smith because the objective of Miller-Smith is to enable a user to intuitively navigate around a menu of items and select a desired one and the menu of Miyao

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accomplishes this purpose. Further, the thumbnail images of Miyao are adjoined together so that they form one single ring which is manipulated as a whole, i.e. no single thumbnail can be moved apart from moving the whole ring. Further, the examiner considers it to be patently immaterial whether the thumbnails are adjoined by lying next to one another or are adjoined by being in contact with one another.

Claims 6 and 7: Miller-Smith and Miyao disclose the information display unit according to claims 1 and 2 and Miyao further discloses

- a. the image compression processing section generates a plurality of pieces of compressed image data compressed at different compression ratios respectively (column 11, lines 16-23, column 13, lines 43-52), and
- b. the display control section provides controls, by fetching the switching request information from the switching request information fetching section, so that said plurality of pieces of compressed image data are displayed first in the descending order of the image compression ratios, and then the image display data assigned to be displayed next is displayed (column 11, lines 16-23, column 13, lines 43-52).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to add

- a. the image compression processing section generates a plurality of pieces of compressed image data compressed at different compression ratios respectively, and
- b. the display control section provides controls, by fetching the switching request information from the switching request information fetching section, so that said plurality of pieces of compressed image data are displayed first in the descending order of the image compression ratios, and then the image display data assigned to be displayed next is displayed

to Miller-Smith. One could have been motivated to add

- a. the image compression processing section generates a plurality of pieces of compressed image data compressed at different compression ratios respectively, and
- b. the display control section provides controls, by fetching the switching request information from the switching request information fetching section, so that said plurality of pieces of compressed image data are displayed first in the descending order of the image compression ratios, and then the image display data assigned to be displayed next is displayed

to Miller-Smith to further distinguish the image of focus from the unfocused items. In addition, causing the images to become smaller as they move away from the focused image and around the ellipse further creates the illusion that the images are rotating.

Claims 28 and 29: Miller-Smith and Miyao disclose an input device comprising: the information display unit according to claims 1 and 2, and Miller-Smith further discloses an operating section for inputting data for the switching request information indicating that image data displayed by said information display unit in response to the input operation on the display section (column 1, lines 1-67, column 2, lines 1-10).

Claims 30 and 31: Miller-Smith and Miyao disclose the input device according to claims 28 and 29 and Miller-Smith further discloses said operating section has a rotor, but does not disclose the image compression processing section of the information display unit combines the image data compressed along a rotating direction of the rotor so that the plurality of pieces of compressed image data adjoin to each other. However, Miyao discloses

However, Miyao discloses a series of thumbnail images lying next to each other (adjoined, Merriam-Webster Online, <http://www.m-w.com/>) in a 3 dimensional elliptical path (figure 1), whereas the display image sizes of the thumbnails positioned in a back row are sequentially smaller than the display image sizes of the thumbnails positioned in an immediate front row (column 11, lines 16-23), and Miyao further discloses the sequential displacement of the thumbnails such that they appear to be rotating (column 13, lines 43-52). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to add the image compression processing section of

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the information display unit combines the image data compressed along a rotating direction of the rotor so that the plurality of pieces of compressed image data adjoin to each other to Miller-Smith. One could have been motivated to add the image compression processing section of the information display unit combines the image data compressed along a rotating direction of the rotor so that the plurality of pieces of compressed image data adjoin to each other to Miller-Smith because the objective of Miller-Smith is to enable a user to intuitively navigate around a menu of items and select a desired one and the menu of Miyao accomplishes this purpose. Further, the thumbnail images of Miyao are adjoined together so that they form one single ring which is manipulated as a whole, i.e. no single thumbnail can be moved apart from moving the whole ring. Further, the examiner considers it to be patently immaterial whether the thumbnails are adjoined by lying next to one another or are adjoined by being in contact with one another.

Claims 32 and 33: Miller-Smith and Miyao disclose an information processing unit comprising: the information display unit according claims 1 and 2 and Miller-Smith further discloses an information processing section for processing information correlated to image data displayed by the information display unit on the display section (Column 1, lines 1-67, column 2, lines 1-10).

Claims 34 and 35: Miller-Smith and Miyao disclose an information processing unit comprising the input device according claims 28 and 29 and Miller-Smith further

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discloses an information processing section for processing information correlated to image data displayed by the information display unit on the display section of the input device (Column 1, lines 1-67, column 2, lines 1-10).

4. Claims 4, 5, 8-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller-Smith (US 7,091,998 B2) in view of Miyao et al. (US 4,466,237 B1) and further in view of Yamadera et al. (US 2002/0123368 A1).

Claims 4 and 5: Miller-Smith and Miyao disclose the information display unit according to claims 1 and 2, but does not disclose

- a. the control section has a tone processing section for changing the thickness in brightness at least in a portion of the compressed image data, and
- b. the display control section provides controls, by fetching the switching request information with the switching request fetching section, so that said compressed image data having been subjected to the tone processing by the tone processing section is displayed first on said display section and then the display image data is displayed as said image data to be displayed next.

However, Yamadara discloses changing the color of the focal icon so that it is distinguished from the other unfocused icons (paragraph 0154), i.e. causing the focused icon to be a different color than the other unfocused icons. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to add

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- a. the control section has a tone processing section for changing the thickness in brightness at least in a portion of the compressed image data, and
- b. the display control section provides controls, by fetching the switching request information with the switching request fetching section, so that said compressed image data having been subjected to the tone processing by the tone processing section is displayed first on said display section and then the display image data is displayed as said image data to be displayed next.

One could have been motivated to add

- a. the control section has a tone processing section for changing the thickness in brightness at least in a portion of the compressed image data, and
- b. the display control section provides controls, by fetching the switching request information with the switching request fetching section, so that said compressed image data having been subjected to the tone processing by the tone processing section is displayed first on said display section and then the display image data is displayed as said image data to be displayed next

to Miller-Smith and Miyao in order to further distinguish the image in the selector region from the other images.

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Claims 8 and 9: Miller-Smith and Miyao disclose the information display unit according to claims 1 and 2, but do not disclose information is correlated to image data to be displayed respectively,

- a. said information contains a plurality of pieces of lower-layer information each with image data correlated to the lower-layer; and
- b. the display control section also displays, when image data is displayed, the image data for the lower-layer information contained in the information correlated to the displayed image data.

However, Yamadara discloses

- a. said information contains a plurality of pieces of lower-layer information each with image data correlated to the lower-layer (paragraphs 0165-0169, figures 16a and 16b); and
- b. the display control section also displays, when image data is displayed, the image data for the lower-layer information contained in the information correlated to the displayed image data (paragraphs 0165-0169, figures 16a and 16b).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to add

- a. said information contains a plurality of pieces of lower-layer information each with image data correlated to the lower-layer; and

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- b. the display control section also displays, when image data is displayed, the image data for the lower-layer information contained in the information correlated to the displayed image data

to Miller-Smith and Miyao. One could have been motivate to add

- a. said information contains a plurality of pieces of lower-layer information each with image data correlated to the lower-layer; and
- b. the display control section also displays, when image data is displayed, the image data for the lower-layer information contained in the information correlated to the displayed image data

to Miller-Smith and Miyao because it would obviously improve the function of Miller-Smith by displaying detailed information about the function or the channel in the selection region of the display.

Claims 10 and 11: Miller-Smith, Miyao and Yamadera disclose the information display unit according to claims 8 and 9 and Yamadera further discloses

- a. the play-list information fetching section can fetch the lower-layer play-list information concerning an order of image data for a plurality of pieces of lower-layer information (paragraphs 0165-0169, figures 16a and 16b), and
- b. the switching request information fetching sections can fetch the lower-layer switching request information for requesting the switching of image data for the

lower-layer information to be displayed (paragraphs 0165-0169, figures 16a and 16b),

and Miyao further discloses a series of thumbnail images lying next to each other (adjoined, Merriam-Webster Online, <http://www.m-w.com/>) in a 3 dimensional elliptical path (figure 1), whereas the display image sizes of the thumbnails positioned in a back row are sequentially smaller than the display image sizes of the thumbnails positioned in an immediate front row (column 11, lines 16-23), and Miyao further discloses the sequential displacement of the thumbnails such that they appear to be rotating (column 13, lines 43-52).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to add

- a. the play-list information fetching section can fetch the lower-layer play-list information concerning an order of image data for a plurality of pieces of lower-layer information, and
- b. the switching request information fetching sections can fetch the lower-layer switching request information for requesting the switching of image data for the lower-layer information to be displayed,
- c. the image compression processing section compresses the image data for the lower-layer information being currently displayed and the image data to be displayed next according to said lower-layer play-list information to the state in

which the image data is displayed on the screen with smaller dimensions in respective directions compared to those of a normal screen display of the image data,

- d. generating one piece of compressed lower-layer image data by combining a plurality of pieces of said compressed image data so that those image data adjoin to each other along the direction in which the image data is compressed; and
- e. the display control section provides controls, by fetching the lower-layer switching request information with said switching request information fetching section, so that said lower-layer compressed image data is displayed first on said display section and then the image data for the lower-layer information to be displayed next is displayed.

One could have been motivated to add

- a. the play-list information fetching section can fetch the lower-layer play-list information concerning an order of image data for a plurality of pieces of lower-layer information, and
- b. the switching request information fetching sections can fetch the lower-layer switching request information for requesting the switching of image data for the lower-layer information to be displayed,
- c. the image compression processing section compresses the image data for the lower-layer information being currently displayed and the image data to be

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displayed next according to said lower-layer play-list information to the state in which the image data is displayed on the screen with smaller dimensions in respective directions compared to those of a normal screen display of the image data,

- d. generating one piece of compressed lower-layer image data by combining a plurality of pieces of said compressed image data so that those image data adjoin to each other along the direction in which the image data is compressed; and
- e. the display control section provides controls, by fetching the lower-layer switching request information with said switching request information fetching section, so that said lower-layer compressed image data is displayed first on said display section and then the image data for the lower-layer information to be displayed next is displayed

to Miller-Smith and Miyao because it would obviously improve the function of Miller-Smith by displaying detailed information about the function or the channel in the selection region of the display and the objective of Miller-Smith is to enable a user to intuitively navigate around a menu of items and select a desired one and the menu of Miyao accomplishes this purpose. Further, the thumbnail images of Miyao are adjoined together so that they form one single ring which is manipulated as a whole, i.e. no single thumbnail can be moved apart from moving the whole ring. Further, the examiner

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considers it to be patently immaterial whether the thumbnails are adjoined by lying next to one another or are adjoined by being in contact with one another.

Claims 12 and 13: Miller-Smith, Miyao and Yamadera disclose the information display unit according to claims 8 and 9 and Yamadera further discloses

- a. the play-list information fetching section can fetch the lower-layer play-list information concerning a order of image data for a plurality of pieces of lower-layer information (paragraphs 0165-0169, figures 16a and 16b),
- b. the switching request information fetching sections can fetch the lower-layer switching request information for requesting the switching of image data for the lower-layer information to be displayed (paragraphs 0165-0169, figures 16a and 16b),
- c. the display control section displays said lower-layer display image data as image data for lower-layer information to be displayed (paragraphs 0165-0169, figures 16a and 16b),

and Miyao further discloses a series of thumbnail images lying next to each other (adjoined, Merriam-Webster Online, <http://www.m-w.com/>) in a 3 dimensional elliptical path (figure 1), whereas the display image sizes of the thumbnails positioned in a back row are sequentially smaller than the display image sizes of the thumbnails positioned in an immediate front row (column 11, lines 16-23), and Miyao further discloses the

sequential displacement of the thumbnails such that they appear to be rotating (column 13, lines 43-52).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to add

- a. the play-list information fetching section can fetch the lower-layer play-list information concerning a order of image data for a plurality of pieces of lower-layer information,
- b. the switching request information fetching sections can fetch the lower-layer switching request information for requesting the switching of image data for the lower-layer information to be displayed,
- c. the display control section displays said lower-layer display image data as image data for lower-layer information to be displayed,
- d. the image compression processing section compresses the image data for lower-layer information sequentially displayed in said lower-layer play-list information in the image data for lower-layer information being displayed to the state in which the image data is displayed on the screen with smaller dimensions in respective directions compared to those of a normal screen display of the image data
- e. generating one piece of compressed lower-layer display image data by combining a plurality of pieces of said compressed image data so that those image data adjoin to each other along the direction in which the image data is compressed,

to Miller-Smith and Miyao because it would obviously improve the function of Miller-Smith by displaying detailed information about the function or the channel in the selection region of the display and the objective of Miller-Smith is to enable a user to intuitively navigate around a menu of items and select a desired one and the menu of Miyao accomplishes this purpose. Further, the thumbnail images of Miyao are adjoined together so that they form one single ring which is manipulated as a whole, i.e. no single thumbnail can be moved apart from moving the whole ring. Further, the examiner considers it to be patently immaterial whether the thumbnails are adjoined by lying next to one another or are adjoined by being in contact with one another.

Claims 14 and 15: Miller-Smith, Miyao and Yamadera disclose the information display unit according to claims 12 and 13, and Miyao further discloses a series of thumbnail images lying next to each other (adjoined, Merriam-Webster Online, <http://www.m-w.com/>) in a 3 dimensional elliptical path (figure 1), whereas the display image sizes of the thumbnails positioned in a back row are sequentially smaller than the display image sizes of the thumbnails positioned in an immediate front row (column 11, lines 16-23), and Miyao further discloses the sequential displacement of the thumbnails such that they appear to be rotating (column 13, lines 43-52).

Further, Yamadera discloses the control display section makes said switching request information section fetch the lower-layer switching request information, display said

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lower-layer compressed image data first and then lower-layer display image data of the image data for the lower layer information to be displayed next (paragraphs 0165-0169, figures 16a and 16b).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to add

- a. the image compression processing section compresses the image data for lower-layer information being displayed and image data to be displayed next according to the play-list information so that the image data is displayed as a screen display with smaller dimensions compared to those of a normal screen display of the image data,
- b. generating one piece of compressed lower-layer display image data by combining a plurality of pieces of lower-layer compressed image data so that those image data adjoin to each other along the direction in which the image data is compressed,
- c. the control display section makes said switching request information section fetch the lower-layer switching request information, display said lower-layer compressed image data first and then lower-layer display image data of the image data for the lower layer information to be displayed next

to Miller-Smith and Miyao because it would obviously improve the function of Miller-Smith by displaying detailed information about the function or the channel in the

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selection region of the display and the objective of Miller-Smith is to enable a user to intuitively navigate around a menu of items and select a desired one and the menu of Miyao accomplishes this purpose. Further, the thumbnail images of Miyao are adjoined together so that they form one single ring which is manipulated as a whole, i.e. no single thumbnail can be moved apart from moving the whole ring. Further, the examiner considers it to be patently immaterial whether the thumbnails are adjoined by lying next to one another or are adjoined by being in contact with one another.

Claims 16 and 17: Miller-Smith, Miyao and Yamadera disclose the information display unit according to claims 10 and 11, and Yamadera further discloses changing the color of the focal icon so that it is distinguished from the other unfocused icons (paragraph 0154), i.e. causing the focused icon to be a different color than the other unfocused icons. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to add

- a. the tone processing section can execute the tone processing for generating changes in thickness at least in a portion of the lower-layer compressed image data; and
- b. the display control section makes the switching request information fetching section fetch the lower-layer switching request information, display the lower-layer compressed image data having been subjected to the tone processing by

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the tone processing section first, and then display the image data to be displayed next

to Miller-Smith and Miyao in order to further distinguish the image in the selector region from the other images.

Claims 18 and 19: Miller-Smith, Miyao and Yamadera disclose the information display unit according to claims 10 and 11, and Miyao further discloses a series of thumbnail images lying next to each other (adjoined, Merriam-Webster Online, <http://www.m-w.com/>) in a 3 dimensional elliptical path (figure 1), whereas the display image sizes of the thumbnails positioned in a back row are sequentially smaller than the display image sizes of the thumbnails positioned in an immediate front row (column 11, lines 16-23), and Miyao further discloses the sequential displacement of the thumbnails such that they appear to be rotating (column 13, lines 43-52).

Further, Yamadera discloses the display control section makes the switching request information fetching section fetch the lower-layer switching request information, and display said plurality of pieces of lower-layer compressed image data successively, and then the image data to be displayed next (paragraphs 0165-0169, figures 16a and 16b).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to add

- a. the image compression processing section generates a plurality of pieces of lower-layer compression image data each compressed at a different compression ratio; and
- b. the display control section makes the switching request information fetching section fetch the lower-layer switching request information, and display said plurality of pieces of lower-layer compressed image data successively in the descending order of the compression ratios on the display section first, and then the image data to be displayed next

to Miller-Smith and Miyao because it would obviously improve the function of Miller-Smith by displaying detailed information about the function or the channel in the selection region of the display and the objective of Miller-Smith is to enable a user to intuitively navigate around a menu of items and select a desired one and the menu of Miyao accomplishes this purpose. Further, the thumbnail images of Miyao are adjoined together so that they form one single ring which is manipulated as a whole, i.e. no single thumbnail can be moved apart from moving the whole ring. Further, the examiner considers it to be patently immaterial whether the thumbnails are adjoined by lying next to one another or are adjoined by being in contact with one another.

Claims 20 and 21: Miller-Smith, Miyao and Yamadera disclose the information display unit according to claims 16 and 17 and However, Yamadara discloses changing the color of the focal icon so that it is distinguished from the other unfocused icons

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(paragraph 0154), i.e. causing the focused icon to be a different color than the other unfocused icons. Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to add the portion where the tone processing section carries out a tone change on compressed image data is substantially the same as the portion where the tone processing section carries out a tone change on lower-layer compressed image data to Miller-Smith and Miyao. One could have been motivated to add the portion where the tone processing section carries out a tone change on compressed image data is substantially the same as the portion where the tone processing section carries out a tone change on lower-layer compressed image data to Miller-Smith and Miyao in order to further distinguish the image in the selector region from the other images.

Claim 22. Miller-Smith discloses an information display method comprising the step of: fetching play-list information concerning a display order of a plurality of pieces of image data (column 1, lines 1-67, column 2, lines 1-10), but does not disclose

- a. compressing the image data being currently displayed on the display section and the image data to be displayed next according to said play-list to the state in which the image data is displayed on the screen with smaller dimensions in respective directions compared to those of a normal screen display of the image data;
- b. generating one piece of compressed data
- c. generating a lower-layer display image data

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- d. combining a plurality of pieces of compressed image data so that those image data adjoin to each other along the direction in which the image data is compressed; and
- e. fetching the switching request information for requesting switching of image data being currently displayed to display said compressed image data first and then the image data to be displayed next.

However, Miyao further discloses a series of thumbnail images lying next to each other (adjoined, Merriam-Webster Online, <http://www.m-w.com/>) in a 3 dimensional elliptical path (figure 1), whereas the display image sizes of the thumbnails positioned in a back row are sequentially smaller than the display image sizes of the thumbnails positioned in an immediate front row (column 11, lines 16-23), and Miyao further discloses the sequential displacement of the thumbnails such that they appear to be rotating (column 13, lines 43-52)

and Yamadera discloses generating a lower-layer display image data (paragraphs 0165-0169, figures 16a and 16b).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to add

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- a. compressing the image data being currently displayed on the display section and the image data to be displayed next according to said play-list to the state in which the image data is displayed on the screen with smaller dimensions in respective directions compared to those of a normal screen display of the image data;
- b. generating one piece of compressed lower-layer display image data by combining a plurality of pieces of lower-layer compressed image data so that those image data adjoin to each other along the direction in which the image data is compressed; and
- c. fetching the switching request information for requesting switching of image data being currently displayed to display said compressed image data first and then the image data to be displayed next

to Miller-Smith and Miyao. One could have been motivated to add

- a. compressing the image data being currently displayed on the display section and the image data to be displayed next according to said play-list to the state in which the image data is displayed on the screen with smaller dimensions in respective directions compared to those of a normal screen display of the image data;
- b. generating one piece of compressed lower-layer display image data by combining a plurality of pieces of lower-layer compressed image data so that

those image data adjoin to each other along the direction in which the image data is compressed; and

- c. fetching the switching request information for requesting switching of image data being currently displayed to display said compressed image data first and then the image data to be displayed next

to Miller-Smith and Miyao because it would obviously improve the function of Miller-Smith by displaying detailed information about the function or the channel in the selection region of the display and the objective of Miller-Smith is to enable a user to intuitively navigate around a menu of items and select a desired one and the menu of Miyao accomplishes this purpose. Further, the thumbnail images of Miyao are adjoined together so that they form one single ring which is manipulated as a whole, i.e. no single thumbnail can be moved apart from moving the whole ring. Further, the examiner considers it to be patently immaterial whether the thumbnails are adjoined by lying next to one another or are adjoined by being in contact with one another.

Claim 23: Miller-Smith discloses an information display method comprising the steps of: fetching play-list information concerning a display order of a plurality of pieces of image data (column 1, lines 1-67, column 2, lines 1-10), but does not disclose

- a. compressing the image data displayed according to an order thereof in said play-list information to the state in which the image data is displayed on the screen

with smaller dimensions in respective directions compared to those of a normal screen display of the image data;

- b. generating one piece of compressed data
- c. generating lower-layer display image data
- d. combining a plurality of pieces of lower-layer compressed image data so that those image data adjoin to each other along the direction in which the image data is compressed; and
- e. fetching the switching request information for requesting switching of image data to display the image data of said display image data.

However, Miyao further discloses a series of thumbnail images lying next to each other (adjoined, Merriam-Webster Online, <http://www.m-w.com/>) in a 3 dimensional elliptical path (figure 1), whereas the display image sizes of the thumbnails positioned in a back row are sequentially smaller than the display image sizes of the thumbnails positioned in an immediate front row (column 11, lines 16-23), and Miyao further discloses the sequential displacement of the thumbnails such that they appear to be rotating (column 13, lines 43-52)

and Yamadera discloses generating a lower-layer display image data (paragraphs 0165-0169, figures 16a and 16b).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to add

- a. compressing the image data displayed according to an order thereof in said playlist information to the state in which the image data is displayed on the screen with smaller dimensions in respective directions compared to those of a normal screen display of the image data;
- b. generating one piece of compressed lower-layer display image data by combining a plurality of pieces of lower-layer compressed image data so that those image data adjoin to each other along the direction in which the image data is compressed; and
- c. fetching the switching request information for requesting switching of image data to display the image data of said display image data

to Miller-Smith and Miyao. One could have been motivated to add

- a. compressing the image data displayed according to an order thereof in said playlist information to the state in which the image data is displayed on the screen with smaller dimensions in respective directions compared to those of a normal screen display of the image data;
- b. generating one piece of compressed lower-layer display image data by combining a plurality of pieces of lower-layer compressed image data so that those image data adjoin to each other along the direction in which the image data is compressed; and

- c. fetching the switching request information for requesting switching of image data to display the image data of said display image data

to Miller-Smith and Miyao because it would obviously improve the function of Miller-Smith by displaying detailed information about the function or the channel in the selection region of the display and the objective of Miller-Smith is to enable a user to intuitively navigate around a menu of items and select a desired one and the menu of Miyao accomplishes this purpose. Further, the thumbnail images of Miyao are adjoined together so that they form one single ring which is manipulated as a whole, i.e. no single thumbnail can be moved apart from moving the whole ring. Further, the examiner considers it to be patently immaterial whether the thumbnails are adjoined by lying next to one another or are adjoined by being in contact with one another.

Claims 24 and 25: Miller-Smith, Miyao, and Yamadera disclose an information display program for execution of the information display method according to claim 22 (Miller-Smith, column 1, lines 3-6, Miyao, column 8, lines 38-61). Further, it is common in the art for a mobile phone to execute program instructions.

Claims 26 and 27: Miller-Smith, Miyao, and Yamadera disclose a recording medium (Miyao, column 2, lines 65-67) according to claim 24, with the information display program recorded therein readable via arithmetic unit (Miyao, column 8, line 38-61).

Official notice is taken that it is common in the art for a mobile phone to have a memory and a processor with arithmetic capabilities.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John M. Heffington whose telephone number is (571) 270-1696. The examiner can normally be reached on Mon - Fri 8:00 - 5:30 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Weilun Lo can be reached on (571) 272-4847. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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JMH
9/25/07

BA HUYNH
PRIMARY EXAMINER